

SUBSTITUTE ABSTRACT

In a location method based on distance measurements, the distance between mobile and base stations is measured by finding the one-way propagation time between the two radio stations. This one-way propagation time is obtained by sending a location signal and measuring its time of arrival. To mitigate inaccuracy due to use of measurements corresponding to reflected radio paths which are longer than direct radio paths, a method is proposed to ensure that the distance calculation will be done by using the first time of arrival of the location signal. The first time of arrival corresponds to a propagation through the shortest radio path, which is likely to be the direct path. The first time of arrival is determined by using a location signal which includes identical messages, and by combining these messages on reception in order to obtain a signal of higher energy of which the shortest path is detected.